Fall 2006

CEG 434/634: Concurrent Software Design

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Wright State University - Main Campus

CEG434/634
Concurrent Software Design
Fall 2006
Syllabus

Time: Monday, Wednesday, 8:00 pm to 9:15 pm

Class Room: 150 RC

Instructor: Dr. Natsuhiko Futamura

Office: 335 Russ Engineering Center

Email: natsuhiko.futamura@wright.edu

http://www.cs.wright.edu/~nfutamur/

Phone: 775-5107

Office Hours: 2:30-4:00PM on Monday and Wednesday at my office at 335 Russ Engineering Center. Or, by appointment.

TA: Paul Bender (bender.13@wright.edu)
TA office hours: Wednesday 2:00-4:00PM at RC326

Prerequisite: CS400, CEG433/633, Operating Systems.
Expected background:
Discrete mathematics, Data structure, C or C++,
Programming experience in UNIX.

This course provides an introduction to concurrent program design in the UNIX environment. Classical problems of synchronization, concurrency , and their solutions are examined through the course projects and through readings on operating system design text book.

Text books:

Required:
Operating Systems Concepts 7th Ed. Silbershatz and Gavlin, Addison Wesley, 2005

Unix systems Programming: Communication, Concurrency and Threads. Robbinson and Robbins, Prentice Hall 2003

References: Interprocess Communications in UNIX: The Nooks and Crannies, 2nd Ed. Johns S. Gray, Prentice Hal 1998

Exam schedule:

Midterm: Monday, Oct 9, In class exam

Final exam Monday , Nov 17, 5:45-7:45PM

Projects: 20%
Homework: 10%
Mid-term: 30%
Final: 40%

Grading: The grades will be based on a midterm exam, final exam, and homework assignments. Midterm carries 30%, final exam carries 40% of the total score and homework assignments carries 30% of the grade.

A - 80% or above

B - 70% - 79%

C - 60% - 69%

D - 50% - 59%

F - below 50%

The letter grades are not intended to be curved; however, I reserve the right to curve the final grades based upon the final point distribution.

A missed exam counts as a 0. The grade A indicates excellence: To receive an A, you must demonstrate a thorough knowledge of the material throughout the course.

There will be no grades of incomplete given except when documented emergencies have made it unable for the student to finish the course.

Topics: The topics covered in the course include the following:

Process management
Process scheduling
CPU scheduling
UNIX I/O Inter-process communication
Asynchronous events
Client-Server computing
Inter-process communication and sockets
Process Synchronization (critical sections, semaphores, etc)
Threads,
Deadlocks